

WHAT IS CLAIMED IS:

1. A composite cemented carbide roll having a sleeve comprising a cemented carbide outer layer formed integrally from a plurality of previously sintered cylindrical formed members and an inner layer made of a steel member formed on the inner surface of said outer layer, fixed through engagement with a steel arbor; wherein said sleeve has a length within a range of from 520 to 6,000 mm.

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2. A composite cemented carbide roll according to claim 1, wherein the number of said formed members is within a range of from 5 to 30.

15 3. A composite cemented carbide roll having a sleeve comprising a cemented carbide outer layer formed integrally from a plurality of previously sintered cylindrical formed members and an inner layer made of a steel member formed on the inner surface of said outer layer, fixed through engagement with a steel arbor; wherein said sleeve has a ratio S_o/S_i of the sectional area S_o of said outer layer in the cross-section perpendicular to the rotation axis to the sectional area S_i of said inner layer within a range of from 0.3 to 20.

20 25 4. A composite cemented carbide roll according to claim 3, wherein the ratio S_o/S_i of the sectional area S_o of said outer layer to the sectional area S_i of said inner layer is within a range of from 0.8 to 15.

5. A composite cemented carbide roll according to any one of claims 1 to 4, wherein said roll has an outside diameter within a range of from 150 to 800 mm, and is used as a work roll for a cold tandem mill.

6. A composite cemented carbide roll according to any one of claims 1 to 4, wherein said roll has an outside diameter within a range of from 500 to 1,500 mm, and is used as a work roll for a hot roughing mill.

7. A composite cemented carbide roll according to any one of claims 1 to 4, wherein said roll has an outside diameter within a range of from 400 to 1,400 mm, and is used as a work roll for a hot finishing mill.

8. A composite cemented carbide roll according to any one of claims 1 to 4, wherein said roll has an outside diameter within a range of from 500 to 1,500 mm, and is used as a work roll for a plate mill.

9. A composite cemented carbide roll according to any one of claims 1 to 4, wherein said roll has an outside diameter within a range of from 600 to 2,000 mm, and is used as a work roll for a section mill.

10. A hot rolling method of steel, comprising the step of using, upon hot rolling steel, rolls having a cemented

carbide surface layer as work rolls for at least a stand of a roughing mill.

11. A hot rolling method of steel, comprising the step
5 of using, upon hot rolling steel, rolls having a cemented carbide surface layer as work rolls for at least a stand of a finishing mill.

12. A hot rolling method of steel according to claim 10
10 or 11, wherein said roll has a arbor and a sleeve member outside the same, and said sleeve member is formed by integrating a plurality of cemented carbide formed members through connection in the roll axial direction.